

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
**(PCT Article 36 and Rule 70)**

Applicant's or agent's file reference A3-205PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US 03/36952	International filing date (day/month/year) 19.11.2003	Priority date (day/month/year) 19.11.2002
International Patent Classification (IPC) or both national classification and IPC H01R12/16		
Applicant MOLEX INCORPORATED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
  
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
 

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.
  
3. This report contains indications relating to the following items:
  - I  Basis of the opinion
  - II  Priority
  - III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV  Lack of unity of invention
  - V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI  Certain documents cited
  - VII  Certain defects in the international application
  - VIII  Certain observations on the international application

Date of submission of the demand 18.06.2004	Date of completion of this report 28.02.2005
Name and mailing address of the international preliminary examining authority:  European Patent Office - Gitschner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer Stirn, J-P Telephone No. +49 30 25901-565



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US 03/36952

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-12 as originally filed

**Claims, Numbers**

1-8 received on 14.02.2005 with letter of 07.02.2005

**Drawings, Sheets**

1/40-40/40 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US 03/36952

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: US-A-5320552

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1 and shows (the references in parentheses applying to this document):

A memory card connector (see figure 11) comprising an insulative housing (63) with a plurality of contacts (8) and a cover (64) with guide means (90) for receiving the memory card. A pivot-detent mechanism is mounted between the cover and the housing comprising a pivot projection (89) on the cover to mount the cover for pivotal movement between an open position to allow the memory card to be received and a closed position bringing the contacts of the memory card in contact with the contacts (8) of the housing (see figure 11-20; column 5, line 10 - 50). Detent means (344) for receiving the pivot projections (89) allow the cover to slide from a closed position to a latched position (see figures 21-24; column 5, line 51 - 63). The cover (64) has a pair of spring arms (68) which carry the pivot-detent mechanism (see figure 11).

The subject-matter of claim 1 differs from this known document D1 in that the cover is stamped and formed of sheet metal material and the spring arms are resilient to self-bias the pivot projections thereon into the pivot sockets.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as how to increase the workability of the cover in a memory card connector.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

the cover is stamped and formed of sheet metal material and the spring arms are resilient to self-bias the pivot projections thereon into the pivot sockets. Thereby the cover is better suited for frequent use than the cover disclosed in the prior art. None of the cited documents discloses such a solution.

**INTERNATIONAL PRELIMINARY  
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Claims 2-8 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Claims 1-8 are industrially applicable.

EPO - DG 1

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CLAIMS

1. A memory card connector (1) for receiving a memory card (2) having a plurality of conductive contacts (2a), comprising:

an insulating housing (4);

a plurality of conductive terminals (16) mounted on the housing;

a cover (6) having receptacle means (6f) for receiving the memory card;

and

a pivot-detent mechanism (8) operatively associated between the cover and the housing and movably mounting the cover to the housing, including

pivot means (12,18) comprising a pivot socket (18) in one of the cover (6) and housing (4) for receiving a pivot projection (12) on the other of the cover and the housing, engageable between the cover (6) and the housing (4) to mount the cover for pivotal movement between an open position to allow the memory card (2) to be received on the cover and a closed position bringing the contacts (2a) of the memory card into engagement with the terminals (16) on the housing, and

detent means (12,20) including a detent socket (20) separate from and independent of said pivot socket (18) for receiving said pivot projection, engageable between the cover and the housing (4) to allow the cover (6) to slidably move from said closed position to a latched position, a portion (12) of said pivot means (12,18) providing a dual function of forming a portion (12) of said detent means (12,20),

wherein said housing (4) is generally flat and mounts the terminals (16) in a generally side-by-side array and includes a pair of mounting portions (4c) at opposite sides thereof, and said cover is generally flat and the receptacle means includes a mouth (6f) at one end of the cover for insertion of the memory card (2) thereinto, the cover having a pair of spring arms (10) at an opposite end thereof and juxtaposed alongside said pair of mounting portions (4c) of the housing, said pivot-detent mechanism (8) being operatively associated between the mounting portions (4c) of the housing and the spring arms (10) of the cover,

and wherein said cover (6) is stamped and formed of sheet metal material, and said spring arms (10) are resilient to self-bias the pivot projections (12) thereon into the pivot sockets (18) and the detent sockets (20) in the mounting portions (4c) of the housing (4).

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2. The memory card connector of claim 1 wherein the detent sockets (20) define the latched position of the cover.

3. The memory card connector of claim 1 wherein said detent projections (12) are generally cone-shaped.

4. The memory card connector of claim 2 wherein the detent sockets (20) are located rearwardly of the pivot sockets (18).

5. The memory card connector of claim 1 wherein the detent sockets (20) are semi-conical.

6. The memory card connector of claim 1 wherein said cover (6) includes a cover plate (6a) spanning an area between said spring arms (10) and a pair of side walls (6b) defining opposite sides of said receptacle means (6f).

7. The memory card connector of claim 6, including latch means (6c,24a) between the side walls (6b) of the cover (6) and opposite sides of the housing (4) and automatically engageable when the cover slides to said latched position.

8. The memory card connector of claim 7 wherein said latch means comprises latching flanges (6c) formed inwardly from said side walls (6b) of the cover (6) and slidable under latching flanges (24a) at opposite sides of the housing (4) when the cover slides to said latched position.